

Going from 6 notes to 13 notes **NEEDS REVIEW**

A Bass Marimba that was a product of design evolution

By Chris Banta

Initial Design... This marimba had originally started out as a six-note straight-column resonator instrument like the Zimbabwean-style of bass marimba. This configuration required the performer to use a riser so they would be at the correct playing height.



[MOD No. 1]

Although this height was visually appealing, there were problems associated with the riser, instrument set-up, mobility, and playing indoors. The obvious solution was to lower the playing surface height so the performer could stand on the ground. However, this is not an easy task because it required "mitering" or changing of the direction of the resonators away from the ground to facilitate the lowering of the bars. A new frame design was in order along with creating a new resonator support mechanism.



The unfortunate downside of mitering is that the resonant frequency of the column sharpens in pitch. This occurs because mitering shortens the speaking length of the column. To counteract this, the length of each column needs to be extended at the tuning stopper location. A short segment of tube, matching the cross-sectional dimensions of the column, is then attached to the column's end. Rather than attempting to match the redwood material, white pine was used to provide a stylistic contrast.



[MOD No. 2]

The new lowered bar height was fine, but now six notes just seemed to be too limiting, thus necessitating the need for an additional upper octave. A small set of bars and resonators were designed on a small frame to hang-on the high- end of the existing instrument.



[MOD No. 3]

As nice as this was, the gap between the low and high end, lead to performance problems and tended to interfere or slow down the mallet work during quick executions from note-to-note. The solution required "integrating" the hang-on component into the existing frame which meant the whole frame needed to be redesigned and lengthened. Once the gap was gone, the performer's playing style was much smoother.



[MOD No. 4]

Further performances were revealing that the low G note was not enough, and a lower F and D notes were becoming a desirable necessity.

Once again, two lower bars and their corresponding resonators had to be designed and integrated into the frame. The gap created by a separate stand-alone two-note unit would not have been acceptable. Therefore, another design and lengthening of the frame along with a resonator mounting solution was needed.

Finally, with the bars all neatly in a row the performer has a flat uninterrupted playing surface in which to dazzle the audience.

